Genetic Testing: How does the health system introduce and sustain genetics testing?

• SUMMARY
  • Genetic testing is evolving quickly and choosing the right test for the right therapies is complex as a result.
  • It is critical that stakeholders continue to meet and find innovative pathways for stopping what is no longer adding value in the health system and freeing up funding for new precision medicine pathways, testing and therapies (recognizing this medicine is competing with other health system needs).
  • Complexity of genetic testing and therapies will continue to put pressure on health system budgets and trade-offs will be necessary; changes in standards of practice will need to be modified to ensure the therapy is responding to changes in test capabilities;
  • Collaboration within BC, Canada and globally is needed to demonstrate clinical efficacy of precision medicine, achieve improved patient outcomes and ensure sustainable funding
  • A number of agencies in BC and Alberta are actively engaged in precision medicine; attracting and retaining talent such as genetic counsellors and bioinformatics is a challenge

• ACTION STEPS
  • Continue to utilize collaboration opportunities with health system stakeholders with a focus on improving patient outcomes
  • PHSA precision medicine strategy development and planning underway; more to come

Carolyn Bell
The Modern Patient

• Our patients want to thank the amazing scientists and industry partners who are working so hard to make this type of care a reality. Without belabouring the point, our patients are important. They have a voice and they support and thank you all for your hard work in moving science forward.

SUMMARY

• Personalized medicine has the potential to greatly affect the patient journey in a positive way
• Patients with complex acute and chronic diseases undergo traumas around their care every day. Invasive procedures, dangerous treatments and encounters with the health system all have the potential to cause emotional and physical harm.

ACTION STATEMENT

• Include patient stories in future research and marketing. People really need to hear the human side of the work that you do.
• Our patients have a lot to offer in terms of involvement in research ideas, design, marketing. Involve patient partners in every aspect of care. The Patient Voices Network is a BC based group of people who have encountered the health system and would like to give back to make health care more in line with what our patients want and need.

Annemarie Kaan
Personalized Medicine & Oncology - Key Points

SUMMARY

• Highly stratified cancer care is today’s best medicine – need for stratification will increase

• Continued challenges of how to prove a target through genomics treatment approach works in a very small cohort (even a single patient) and how to get regulatory and funding approval may be greater than how to interrogate the cancers

ACTIONS

• Patient advocates may be key to aligning regulatory processes to today’s treatment opportunities

• The pediatric oncology world could be used as the pioneer for sharing data across boarders and more personalized approaches

• Data sharing and aggregation, both for individual patients and across populations, is essential if we are to fully take advantage of today’s opportunities

David Huntsman
Data Analytics: An Exciting Frontier!

SUMMARY

• The digitization of society is moving ahead with or without input from various sectors. The health sector is lagging other sectors. Health has the potential to be a leader or lag – in which case other sectors/jurisdictions will set the principles that govern health data.

ACTION STEPS

• Determining the principles respecting ownership, security, access, sharing, leveraging and even commercializing health data needs to be done on a ‘holistic’ basis where old boundaries between private and public, large and small etc are erased.

• Canada has the potential to ‘win’ in the data management and governance space and set the stage for the world!

Sue Paish
Artificial Intelligence & Machine Learning in Health Care

SUMMARY
• Rapid growth and development of potential applications across our system
• Significant potential for system transformational opportunities - but need also to be aware of privacy and ethical issues as well.

NEXT STEPS
• Industry keen to partner and collaborate
• Cisco announced $10m investment in Capacity building in western Canada
• Sightlines - launching a new secure data trust platform this week
• Splunk - keen to collaborate with Canadian Healthcare on range of initiatives

Howard Waldner
Virtual Health: From Good Practices to Adoption

• SUMMARY
  • Virtual health has demonstrated its value for patient centred care. What do we need to do now to increase adoption and scale up of virtual health?

• CONSIDERATIONS towards ACTION STEPS
  • Move towards an on line health records for patients’ access?
  • Leverage technologies to strengthen relationships: health professionals & patients, interprofessional team members
  • Tailor virtual health approaches and content to optimize engagement and involvement of users at their comfort level in technology use
  • Encourage sustainability of proven technologies, and innovations of new technologies to meet health gaps or provide unprecedented care pathways
  • Ensure appropriate and high quality virtual care models to maximize value and cost effectiveness
Post-Secondary Healthcare Training Educational Requirements for Genomic Medicine in 2020

• SUMMARY
  • Canada should develop an educational “omics” platform that will enable multiple curricula for post secondary healthcare professionals, and patients.

• ACTION STEPS
  • Write an opinion piece that includes the important steps required
    • Work with educational and industry partners across Canada
    • Use resources that already exist in other countries such as NIH
    • Enable customization of content to groups of users including patients
    • Enable new knowledge to inform the educational programs
    • Explore where to start such as pharmacogenetics
    • Look at clinical utility including bioinformatics
    • Consider different educational strategies such as those employed by industry

Martin Dawes
Personalized Medicine Through Innovation

• SUMMARY
  • BC is a vibrant hub for precision medicines and a nascent hub for companies focused on molecularly based preventive medicine.

• ACTION STEPS
  • Need to publicize our efforts provincially, nationally and internationally
  • Conferences such as this one.., lobby for preferential treatment by provincial government, federal government..., attract Pharma and big biotech....
  • Work to attract venture capital to scale these enterprises
  • Focus academia and funding bodies to support these industries of the future

Pieter Cullis
How to Deliver Personalized Medicine Today!

• SUMMARY
  • Make the data accessible and easy to use and put it in the control of the patient

• ACTION STEPS
  • Start with Pharmacogenomics and Cancer therapies
  • Provide easy to use tools for practitioners and patients
  • Partner with corporations and insurance groups

Rob Fraser
Decentralizing and Democratizing Genomics with Blockchain

• SUMMARY
  • Blockchain has the potential to help us address challenges in genomic data management (data silos, data privacy, data ownership, data security)
  • Facilitate patient driven systems or initiatives
  • Active and dynamic patient consent – patient control their data
  • Potential barriers: regulatory, education, user interface

• ACTION STEPS
  • Need to create capacity and expertise in blockchain in BC
  • Advance academic programs and trainings in the field of genomics, blockchain, AI and machine learning
  • Attract international companies to start developing business in BC
  • Identify opportunities for patient, clinicians researchers interactions supported by blockchain (BC the Pharmacogenomics province!)

Catalina Lopez-Correa
Where do we go now?

- Stop taking my blood!
- We need a strategy!
- We need to collaborate!

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- PHSA mandate to build on the genomics and genetics testing framework
- Relationships, collaborations, engagement
- Strengthen connections: clinical-research-academia
  - Pathway to clinical use
- Work with stakeholders to develop a “Provincial Clinical Genomics Testing Strategy”
- Undertake an inventory of current state of clinical genomics testing in BC
- Develop evaluation criteria for new and expanded use of clinical genomics testing
  - Data driven, evidence based, outcomes focus
- Clinical value, clinical utility, actionable (Clinical Value Proposition)
  - Business case
  - Operational costs and impacts
  - System ROI

Jim Slater
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